Claims

What is claimed is:

1. A method comprising a step (a) of selecting a target destination using at least two lateral seek cost indicators that are each partly based on a corresponding lateral offset indicator derived from a longitudinal position measurement.

2. The method of claim 1 in which the selecting step (a) includes steps of:

(a1) estimating several seek lengths each corresponding to a queued command, a first one of the estimated seek lengths being one of the lateral seek cost indicators;

(a2) determining that the one lateral seek cost indicator corresponds to one of the queued commands that refers to a non-ideal target, the non-ideal target not being reliably reachable within a one-cycle delay; and

(a3) selecting another of the queued commands to be executed immediately so that the selected command refers to the target destination, the target destination being reliably reachable within a partial cycle delay.

3. The method of claim 1 in which the selecting step (a) includes a step (a1) of deriving an effective seek length for each one of several queued commands, two of the several effective seek lengths being the at least two lateral seek cost indicators.

4. The method of claim 1 in which the selecting step (a) includes a step (a1) of obtaining the longitudinal position measurement as a scalar

value obtained via a reference sensor that cannot detect the target destination.

5. The method of claim 1 in which the selecting step (a) includes a step (a1) of calculating each of the lateral seek cost indicators as an arithmetic combination of several terms, at least one of the terms being a sinusoidal function of the longitudinal position measurement.

6. The method of claim 1 in which the selecting step (a) includes steps of:

(a1) determining a source cylinder identifier, a source head identifier, and a source sector identifier for a presently-selected source head, the source sector identifier being the longitudinal position measurement;

(a2) receiving many queued commands that each include a target cylinder identifier, a target head identifier, and a target sector identifier;

(a3) computing a difference between the source cylinder identifier of the determining step (a1) and each of the target cylinder identifiers so as to obtain a preliminary seek cost indicator corresponding to each of the queued commands of the receiving step (a2) ;

(a4) identifying at least two of the queued commands of the receiving step (a2), the preliminary seek cost indicator corresponding to each of the identified commands being smaller than a predetermined threshold;

(a5) adjusting the seek cost indicator corresponding to each of the identified commands of the identifying step (a4), the adjustments each being partly based on the corresponding identified command's target head identifier, on the source head identifier, and on the

source sector identifier, the adjustments being the lateral offset indicators, the adjusted indicators including the at least two lateral seek cost indicators;

(a6) deriving several latency indicators each corresponding to one of the queued commands of the receiving step (a2) , each of the latency indicators based on the corresponding command's target sector identifier and seek cost indicator, at least two of the several latency indicators based on the adjusted seek cost indicators of the adjusting step (a5); and

(a7) executing one of the queued commands of the receiving step (a2) selected based on the latency indicators of the deriving step (a6), using as the target destination the selected command's target cylinder identifier, the selected command's target head identifier, and the selected command's target sector identifier.

7. The method of claim 1 in which the selecting step (a) includes steps of:

(a1) positioning a disc stack rigidly supporting at least two pre-written data storage discs into a disc drive so that the target destination is a storage location on one of the data storage discs; and

(a2) deriving a calibrated offset model that defines how the longitudinal position measurement affects the lateral offset indicators.

8. An apparatus including:
a disc stack having at least two rigidly supported, pre-written data storage discs; and
a controller configured to select a target destination on one of the discs using at least two lateral seek cost indicators that are each partly based on a corresponding lateral offset indicator derived from a longitudinal position measurement.

9. The apparatus of claim 8, further including:
    a target head able to access the target destination but not able to
    access the longitudinal position measurement; and
    a source head able to access the longitudinal position measurement
    but not able to access the target destination.

10. The apparatus of claim 8, in which the controller includes a random-
    access memory configured to contain a queue of more than 32 disc
    access commands in which each of the commands includes a target
    cylinder identifier, a target head identifier, and a target sector
    identifier.